

# AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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## AMERICAN RAILROAD JOURNAL.

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The following communication gives us what we desire to receive from every Engineer—precise information in relation to an important work, which will be useful to many of our readers. We are truly obliged to W., and desire him and others to repeat such favors:—

To the Editors of the Railroad Journal.

Thinking it probable that a description of the Tunnel on the Philadelphia and Reading Railway might prove interesting to some of your readers, I have drawn up a statement of the most important facts relative to that work, which is at your service should you deem it worthy of a place in your Journal.

This tunnel is on the line of the Philadelphia and Reading Railway, near Phoenixville, in Chester County, Pennsylvania, and about twenty six miles north west of Philadelphia. The total length from face to face is 1932 feet; width 19 feet, and height 17 1/2 feet. The sides of the tunnel are perpendicular to the height of 10 1/2 feet from the bottom or grade line; above which is a semi-ellipse rising 6 3/4 feet. At the north face the depth of open cutting is 47 feet, and at the south face 54 1/2 feet. The excavation has been driven from the two ends and from five shafts; these shafts are 7 feet in diameter, and their depths from surface of ground to grade line of tunnel are as follows, viz: 116 1/2 feet, 139 1/2 feet, 138 1/2 feet, 100 1/2 feet, and 82 1/2 feet. The shafts are not placed as customary over the centre of the tunnel, but in such a position that the side of the tunnel forms a tangent to the circumference of the shaft; in consequence of this arrangement, very little if any danger is incurred by the men below from the accidental falling of any thing in the shaft. The distance between the 2nd and 3d, and between the 4th and 5th shafts is only 100 feet; the advantage of this is obvious; very little error can occur in working out the short drift between the two shafts, as soon as this is accomplished two cor-

rect points are obtained in the tunnel 100 feet apart, and the long drifts are worked with certainty from the range of these points. During the progress of sinking the shafts, a common windlass was used worked by hand, but as soon as tunnelling was commenced, resource was had to a gin worked by two horses; at first one guy placed between two adjacent shafts was sufficient to remove the material excavated from both drifts, a single rope being used so that one bucket would be up, while the other was down; but as the drifts became enlarged and the number of miners increased, it was found necessary to put up a separate guy with two buckets for each shaft.

The method of removing material is simple and expeditious; a temporary railway track is laid in the drift from the foot of shaft, and another from the top of shaft elevated a few feet above the surface of ground; on each track a small car on low wheels is kept; the bucket being placed on the car below and filled, is pushed by hand to the shaft, attached to the rope and drawn up; then the car above is run under the bucket which has a false bottom secured by a hinge and bolt; the bolt being knocked out, the material falls into the car, is conveyed away, and thrown out by tilting the car. The bucket used is 2 1/2 feet in depth with a average diameter of 2 feet 4 inches, being rather smaller at top than at bottom and holds about 9 cubic feet of stone; the rope is 1 1/2 inch in diameter.

After the shafts attained a depth of about 70 feet, and until a connection was effected between two shafts, it was impossible to proceed without adopting some artificial mode of driving out the impure air and smoke caused by continual blasting.

Several plans were tried, but none proved so effectual as the following: a wooden pipe about 4 inches in the clear was passed down the shaft terminating below in a piece of canvass pipe, (which could be removed during the blasting,) and having the upper end secured to a fanning machine constructed expressly for this purpose; this machine, when worked by one man, forced down sufficient good air to drive up the smoke and bad air from below.

Both the shafts and tunnel have been excavated for their whole length through a very hard siliceous slate rock, which, although difficult to be worked, affords an excellent roof. No arching for masonry is required, except for a few feet at each end in connection with the facing of cut stone.

This work was contracted for on the 21st of October 1835 by Mr James Appleton who had previously completed the Portage Tunnel on the Pennsylvania Railway. On the 30th November, the excavation of shafts was commenced, and in December the deep cuts at the ends of tunnel. On the 8th of March 1836, the first tunnelling began, since which time as large a force as possible has been kept at work, day and night, the number of men employed amounted at one time to about 450.



At this date the tunnel is open from end to end, (the last junction having been effected on the 7th of July,) about 1180 feet is excavated to the full size, and the remainder is in such a state of forwardness as to warrant the belief that the entire excavation will be completed by the first of September, being less than two years from the date of its commencement. W.

July, 21st, 1837.

**NEW PROPELLING POWER.**—Some account has been given here already of an invention by Francis B. Ogden, Esq., our Consul at Liverpool, for the propulsion of vessels by a far simpler and cheaper method than has been heretofore practised. We have not yet obtained any details, or any clear understanding of the means used, but we believe the system to be all that it promises. The power may be used in separate vessel for towing, or it may be employed in a sailing vessel—rigged in during fair weather, or employed during calms, or in getting off a lee shore, &c.—It will occupy no considerable space in a ship, and its aid may often be invaluable. As yet it has been only employed for towing other vessels, but the packet ship *United States* will probably be fitted out with an engine before she returns. One is in preparation for her. The power used we understand to be steam.

A letter before us to the captain of one of our crack packet-ships, dated May 27th, says, "we are now making the most triumphant experiment with our little boat, (45 feet long, 8 feet beam.) We have the *Toronto* in tow, and the pilot and mate, (the captain is not on board,) beside that we are making good four mile through the water. This decides the question beyond the possibility of a doubt, and your shipmasters need not now be afraid of steamboats as rivals on the ocean.—We can put an engine on board your ship that will not weigh ten tons, and yet will drive her five miles an hour. We shall go to work at once on an engine for the ship *United States*.—We are now going full five knots."—[Bal. Gaz.]

PATENT OFFICE,  
Washington, July 13, 1837.

In consequence of the destruction of the records of the Patent Office by fire in December last, Congress provided by law for recording all patents *anew*; and no patent can be given in evidence *until* the same has been recorded *again* in this office.—The law provides for the record of all patents which have been issued, whether the same have or have not expired. Such record, it is believed, will be honorable to inventors, and highly useful in the future management of the Patent Office. Arrangements are accordingly made for recording all patents *anew* in this office, expecting that persons holding patents will promptly comply with the law in this respect. It is hoped none will delay transmitting patents because the invention may be deemed unimportant. A copy of every patent issued is desirable, as the best means of preventing imposition. Many persons have already complied with the law, and their patents have been recorded and returned to them; and all who have omitted to forward their papers are requested to send them to the office by mail, with out delay. In this mode patents will be secured from infringement, and useful inventions perpetuated. Papers forwarded will be safely kept, and speedily returned. *Transfers* or *assignments* of patents are in like manner required to be recorded *anew*. Publishers of newspapers will promote the cause of science, as well as oblige their customers, by publishing this notice.

HENRY L. ELLSWORTH,  
Commissioner of Patents.\*

**IMPORTANT TO STEAM MACHINERY.**—It has been discovered in France, by M. Chaix, that the incrustation on the inside of the boilers is totally prevented by mixing clay with the water. The government has rewarded the discoverer with twenty thousand francs.—[Buffalo Journal.]

ON AN IMPROVED METHOD OF MAKING MEADOW-HAY. BY MR. JOHN IVING, FARM-OVERSEER AT CLOSEBURN HALL, DUMFRIES-SHIRE.

[The Society's Silver Medal was awarded for this Essay.]

It is too much the prevailing opinion in Scotland, that meadow-

hay cannot be secured there as effectually as it is in England.—The cause of this prevalent opinion, it is apprehended, is the want of knowledge in the art of making meadow-hay. The usual practice of making every kind of hay in Scotland is, to allow the grass to stand too long before it is mowed, and in the case of meadow-hay until August, when the seeds of the grasses are nearly ripe, and the stalks have lost almost all their succulency; and to allow the swath to lie some days till a considerable part of its moisture is evaporated. The cut crop is then shaken out and turned over when it again lies for some days till it is thought sufficiently dry for putting into large cocks. The hay frequently remains in these cocks, in the field, for two or three months. It is then carried and made into a stack, when it is expected that no fermentation will take place, Scotch farmers imagining that fermentation in hay should always be avoided.

A method of making hay similar to that practised in England has been adopted by C. G. Stuart Menteath, Esq., of Closeburn, by whom I have been employed for some years past as farm-overseer. This method practised over an extent of water meadow chiefly consisting of peat-moss of 20 feet in depth, and upwards, of 100 imperial acres in extent, is to cut the grass as early in July as the weather will permit. The grass mowed in the morning before twelve o'clock, is carefully shaken out upon the ground by hand, and that mowed after twelve o'clock is allowed to remain in the swath till next morning, when it is likewise shaken out. If the weather is at all dry, the hay that has been shaken out is always put into small cocks for the night, so that the ground may be sooner dry the next morning to receive the hay for its exposure to the sun; and after two dry sunny days' exposure, it is frequently, and always upon the third day, carried to the hay barn, where it undergoes a trifling fermentation, which is a desirable process when hay is made with its natural juices. If the weather prove rainy, the hay should remain in the small or hand cocks till a dry day, allow of its being shaken out, and, in the evening, carried to the hay or Dutch barn. This barn is formed of larch poles, set upright, 15 or 18 feet in height, including a space of 15 feet in breadth, and 60 feet in length, and supporting a light roof of thin boards, or a slight covering of straw stitched upon the rafters. No person who expects to have good meadow-hay should be without such a Dutch barn. Salt is generally sprinkled amongst the hay when it is packing up in the hay barn, in the proportion of about 16 lb. to the ton; and, should the hay have been exposed to much wet weather, a double quantity will be advisable.—Hay has thus been made here, under my direction, for many years, without a single ton of it ever having been spoiled.

#### BOUNTY ON WHEAT.

A late act of the Legislature of Maine, gives a bounty of *two dollars* to the person who raises 20 bushels of well cleaned wheat, and six cents per bushel for all over thirty bushels. This is a good encouragement, and we hope it will be the means of arousing our farmers to do their best.

With our natural advantages, seconded by industry and enterprise, with improvements that are making in the introduction of valuable kinds of seed, new methods of culture and new machines for threshing, winnowing and cleansing grain, and with the spur to action now giving by the bounty, we believe that every farmer among us will endeavor to excel in raising wheat, and we shall no longer pay millions to other states for breadstuff, and use foreign grain raised in a climate less congenial to its growth than our own.—[Yankee Farmer.]

**LUDWIG BORNE.**—Ludwig Borne, the well known German writer recently died at Paris, where he has long resided.

**WHITE WEED.**—What benefit is white weed to the farmer? One would be led to suppose, from witnessing the great amount of this article growing over many fields, that it was some valuable thing, suffered to grow and spread itself, or carefully cultivated, until scarcely a blade of grain can be seen without a very close inspection. What benefit is it? We never heard any person (save one) say it was good for any thing but to poison and root out every thing valuable from the ground. We never heard one speak of it, but to scold that it should have existence; still it is suffered to keep quiet possession. If it is a noxious weed, why not destroy it.



AN ACCOUNT OF THE HARBOR AND DOCKS  
AT KINGSTON-UPON-HULL.

Continued from p. 456.

damp, acquired any considerable degree of hardness; nevertheless, as the walls are all substantially founded and solidly built, it is confidently expected that the mortar will continue to indurate till the whole becomes one compact body. The pozzuolana mortar in the front of the walls, even before the water was let in, was in general hard and good; the only defective part being in the west end of the dock, where the wall was damp in consequence of being backed with wet soft earth; some part of this mortar, being used late in the year, was a little perished by frost; and required fresh pointing, but the front of the walls has been frequently examined since the dock was opened, and the joints found every where as perfect and entire as at first. In some parts of the work, accidentally injured by the shipping, and taken down and rebuilt, the pozzuolana mortar was found in a good state, although not so hard in the interior as in the front; the mortar in the beds of the stonework, also, was more indurated than in the vertical joints, and for the most part adhered much firmer.

Town walls or fortifications.

In the course of the works of the Junction Dock, a part of the old fortifications on the east side was cut through and taken down; from their antiquity they may be deemed not unworthy of notice. The walls are said to have been originally built of stone in the time of Edward the Second, but repaired and strengthened with bricks in Richard the Second's reign, when the art of brick-making was revived in this country. The bricks were about 11 inches long by 5½ inches wide, and 2½ inches thick. The mortar was of two kinds, one composed of lime and sand only, the other of lime and powdered bricks or tiles, with very little sand; both were, with a very few exceptions, extremely hard, the latter being the more so. The mortar appeared to have been used in a very soft state, or as grout, but by no means well tempered, small lumps of pure lime, resembling hard tallow, being interspersed in great abundance. In three or four of the bottom courses, and nine to eighteen inches in width at the back of the wall, where it was in a damp state, it had not set in the least, and at the bottom in particular, appeared like pure sand, while the neighboring parts, being dry, were particularly hard, and united together like a rock. It is a generally received opinion, that the extreme hardness of mortar in old buildings is owing entirely to its having been much better tempered in ancient than in modern times; although there is no doubt that this is a most essential point in all kinds of mortar, it is conceived that the superiority is caused chiefly if not wholly by time, and that mortar continues to harden in certain situations probably for centuries. The foundations were eight or ten feet under high water, and in some parts

were on small piles, the rest being on the natural ground. The piles were 5 or 6 feet long, and 6 or 7 inches diameter, some of oak, some of fir, and the hearts of both kinds quite sound and of a blackish color, but the sap much decayed.

Tides and currents in docks.

It was expected when the Junction dock was opened, that it would, on account of its situation, be in a great measure supplied with water from the Humber, but the contrary has been the case, the principal supply being certainly from the river Hull, as is proved by the altered quantities of mud deposited in the Old and Humber docks already noticed; there being an annual increase of mud in the Old dock of about 4,000 tons, and a decrease in the Humber dock of about 6,000 tons, since the Junction dock was opened, as compared with former years. This also shows, that even the Humber dock is in part supplied from the purer source of the Hull.

As a further elucidation of the nature and course of the tides since the Junction dock was opened, the following observations are submitted. During the night tides and on Sundays, when no business is done in the docks, the Humber dock gates are secured fast together, in order to shut out the muddy waters of the Humber. On one of these occasions, very soon after this contrivance was adopted, I noticed that, the water being level on the two sides when the gates were thus shut, the flow was faster on the side next the Humber for the first quarter of an hour; at the end of which the difference was at its maximum of about three inches; the water on the opposite sides began to approximate again, and at the end of fifteen minutes more it was again exactly level throughout. This observation has been since repeated with nearly the same result, though varying a little, according to the state of the tides, and as there may be freshes in the river Hull; in one instance the difference of level was as much as four inches. It appears, then, that the principal supply from the Humber is in the first half hour after the tidal water arrives at the level of the water in the docks, and this agrees with the current or course of the tide through the different locks. I have frequently set off from the Old dock lock at the time the tidal water opened the gates and began to flow into the dock, and have walked slowly on to the Whitefriar-gate lock, where the water had just commenced running very gently into the Junction dock; proceeding forward to the Myton-gate lock, I have generally found the water stagnant, but in the course of a few minutes there appeared a very slow motion towards the Humber dock, and by the time I have arrived at the Humber lock, or about half an hour after leaving the Old dock lock, the water was running gently towards the Humber. It should be observed, that in neap tides the above currents through the locks are always slow, but in spring tides, and when there are freshes in the Hull, the velocity is often as much as three quarters of a mile per hour, and sometimes even more.

The current into the Old dock through the entrance lock is also considerably increased since the Junction dock was made; from observations soon after the opening of the latter, as to the exact level of the tide at the entrances to the Old and Humber docks, it was found that, on an average of several tides, the gates of the former were opened by the rising tide about three minutes before those of the Humber dock.

Before leaving the subject of the tides, I may notice a curious fact, founded upon repeated observations; viz., that about three hours before and after high water, there is sixteen feet water on the Humber; and only ten feet on the Old dock sill.

Conclusion.

Having thus endeavored to give a concise account of the Harbour and Docks at Kingston-upon-Hull, with reference to that department more immediately connected with the object of the Institution for which this paper has been drawn up, I cannot conclude without again briefly adverting to the great and important advantage the town and port have derived from the improvements described.

It is but little more than half a century since the first dock was completed; before that time, the river Hull below the bridge was the only safe harbor in the port, and in this narrow confined space the shipping and small craft were so crowded together, that it was often with great difficulty they could have access to the quays to take in or deliver their cargoes, and damage was sustained by the larger vessels from grounding every tide. It also sometimes happens that the harbor was incapable of containing all the shipping that frequented the port; in which case they were laden and delivered in the Humber by means of craft, at the expense of much delay and considerable additional charges. These inconveniences, and the want of a legal quay, with the complaints they gave rise to on the part of the revenue officers, at length led to the formation of a dock, which in time was followed by another. But extensive and commodious as were the Old and Humber docks for want of a ready passage between them they were still incomplete, the Junction dock has perfected the communication; and instead of being surrounded, as of old, by fortified walls and deep ditches, which (their occupation being gone) had latterly become stagnant pools; the common receptacles for filth and nuisance, the town is now encircled by the rivers Humber and Hull, and three spacious and commodious docks; improving the public health by the assistance afforded to drainage through the liberality of the Dock Company, and rivaling in convenience for the mercantile men and facilities for the despatch of business, those of any port in the kingdom. These, and the means of inland communication, enjoyed or in prospect, with a district peculiarly rich in manufactures, added to its situation on so noble an estuary, and its contiguity to the continent, cannot fail to maintain the eminent rank Hull has hitherto held among British ports.



DOCKS.

	Lenth.	Bredth.	Area.			No. of Ships.
	Feet.	Feet.	Acres.	Roods.	Poles.	
Old Dock,	1703	254	9	3	29	100
Humber Dock,	914	342	7	0	24	70
Junction Dock,	645	407	6	0	5	60
			23	0	18	230

BASINS.

	Length.	Breadth.	Area.		
	Feet.	Feet.	Acres.	Roods.	Poles.
Old Dock,	213	80½	0	1	23
Humber Dock,	267	435	2	2	27
			3	0	10

ENTRANCE LOCKS.

	Length.		Breadth.		Depth of Water on Sills at	
	Feet.	In.	Feet.	In.	Neap Tides.	Spring Tides.
Old Dock,	120	9	38	0	14	0
Humber Dock,	158	0	42	0	20	0
Junction Dock,	120	0	36	6	14	0

BRIDGES.

	Footway.	Ch. i way	Width inside Railing.	Total width outside.
	Feet. In.	Feet. In.	Feet. In.	Feet. In.
Old Dock,	3 6	7 6	14 6	15 0
Humber Dock,	2 8	6 11	12 3	12 6
Junction Dock,	4 0	15 3	23 3	24 0

WAREHOUSES AND SHEDS.

	Length.	Breadth.	Area.
	Feet.	Feet.	Superficial Yards.
Warehouses Old Dock,	315		2,251
Sheds, Ditto.	143	23	1,623
Sheds, Humber Dock.	754	25	2,095

QUAYS.

	Legal Quays.	Totals.
	Square Yards.	Square Yards.
Old Dock,	18,160	19,600
Humber Dock,	8,830	17,639
Junction Dock,		15,613
Humber Dock Basin,		8,419
	29,990	70,701

Plate 6.

HULL DOCKS. PIER HEADS OF BASIN AND ENTRANCE OF HUMBER DOCK.

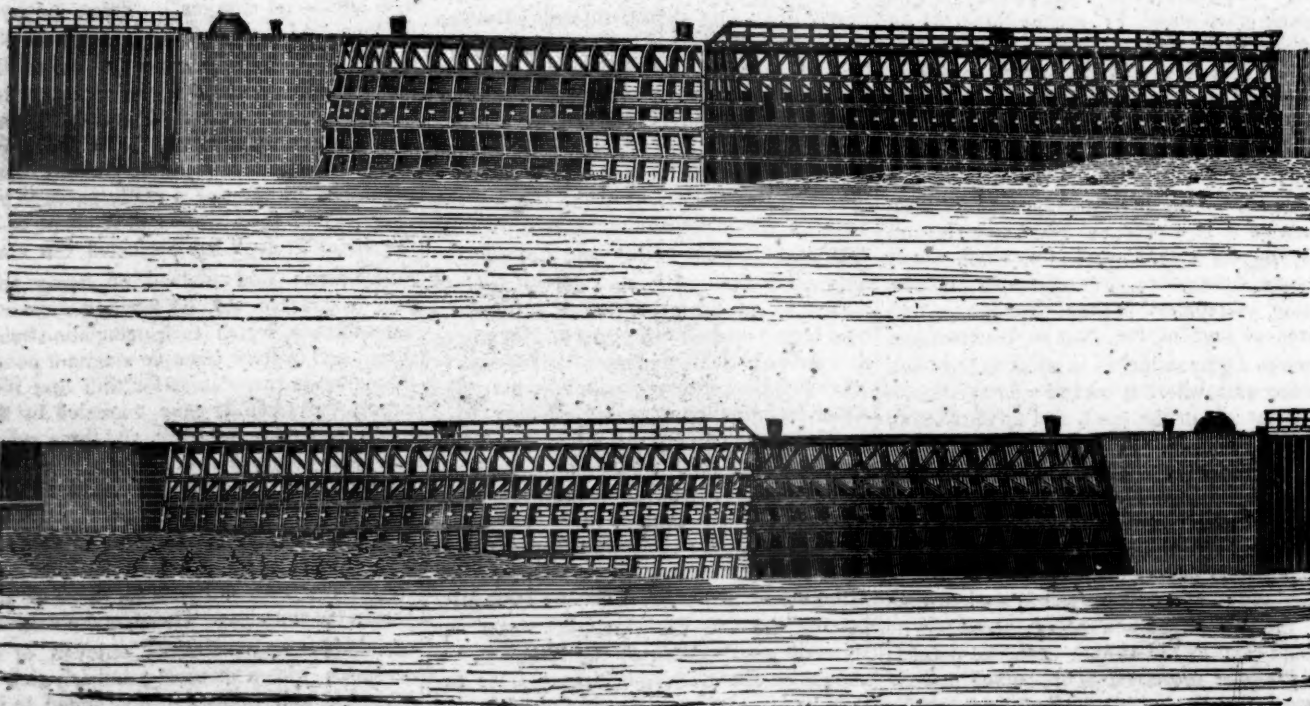
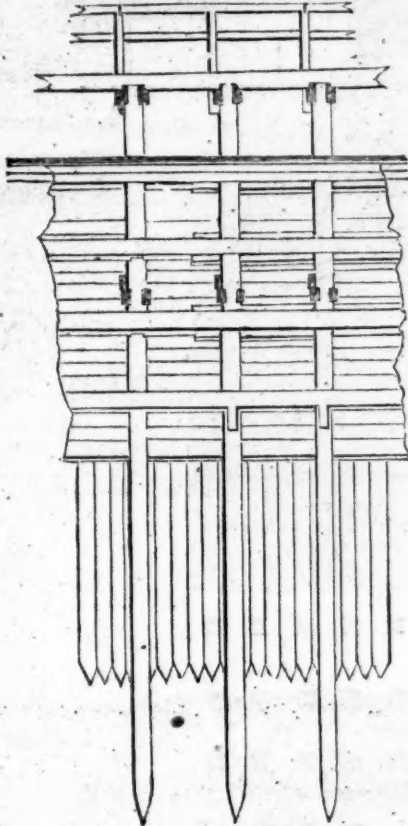


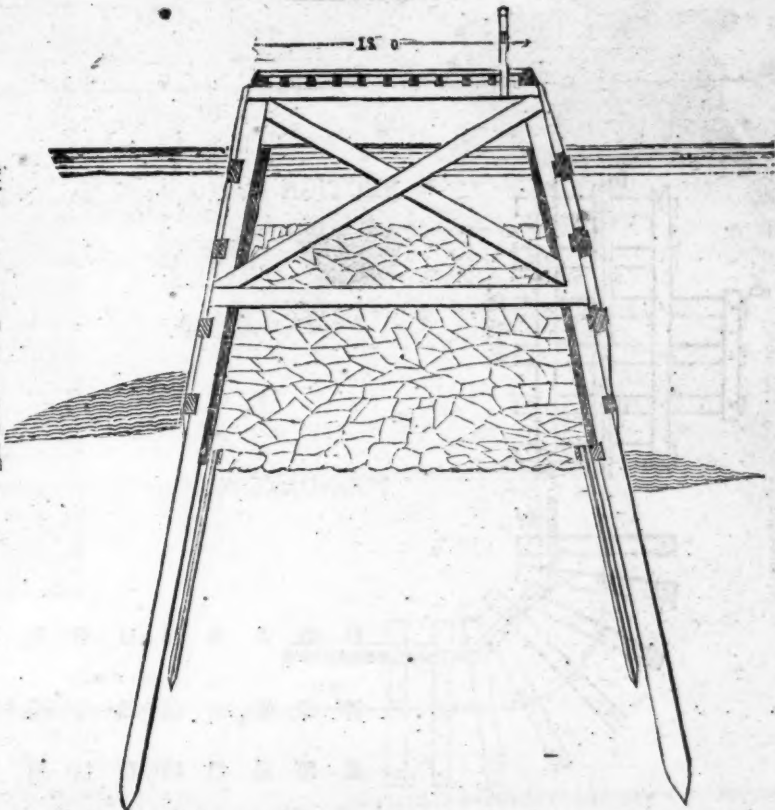


Plate 7.  
HULL DOCKS. PIERS OF HUMBER BASIN.

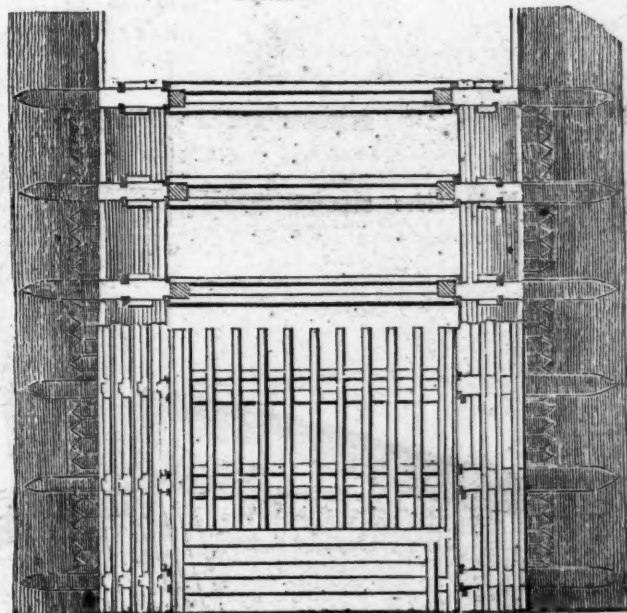
TRANSVERSE SECTION.



ELEVATION.



PLAN.



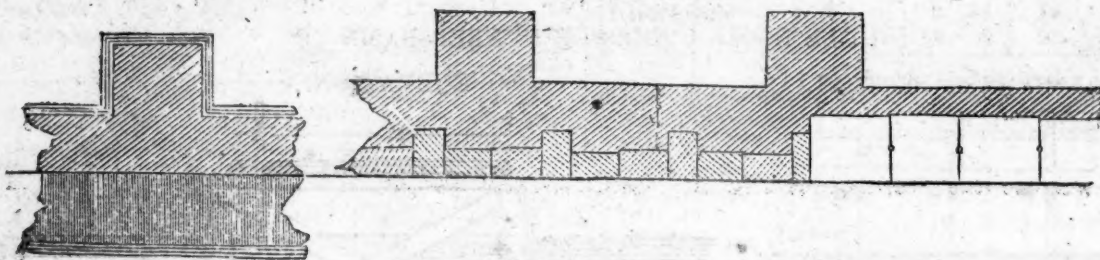
SCANTLINGS.

Main Piles	14 - 14
Outer Wale	14 - 14
Inner Wale	12 - 6
Cap Sill	12 - 10
Joists	7 - 4
Ties	12 - 6
Sheet Piling	6 in. thick
Planking	3 in. thick



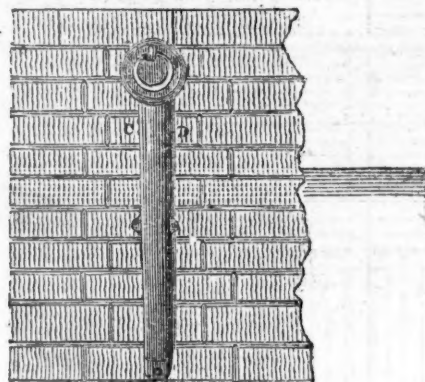
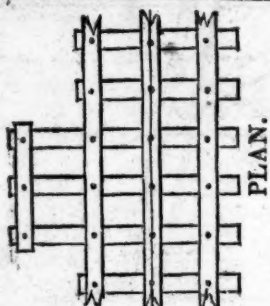
Plate 8.  
AT COPING.

ABOVE FOOTINGS.



SECTION C. D.

ELEVATION.



FOUNDATIONS.

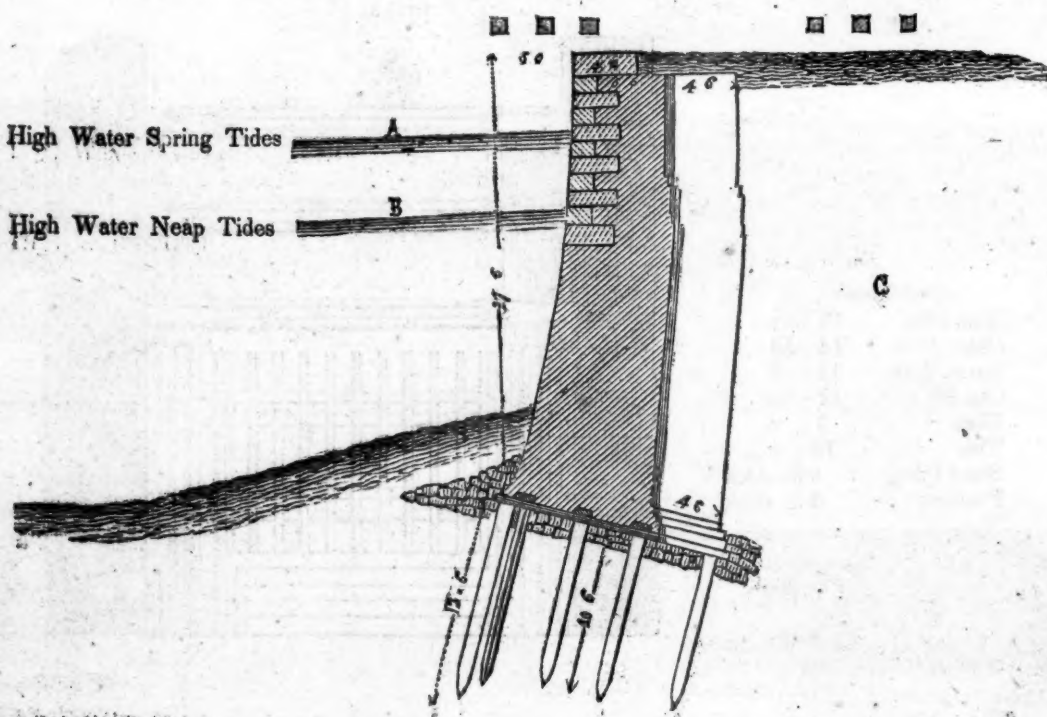
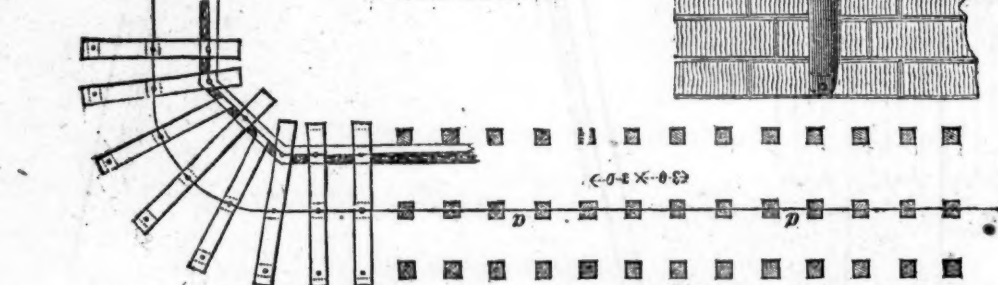




Plate 8.  
CROSS SECTION.

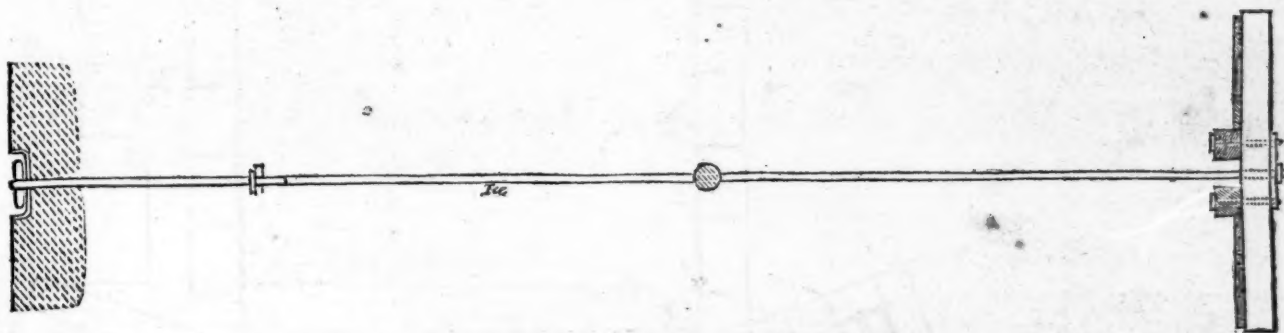
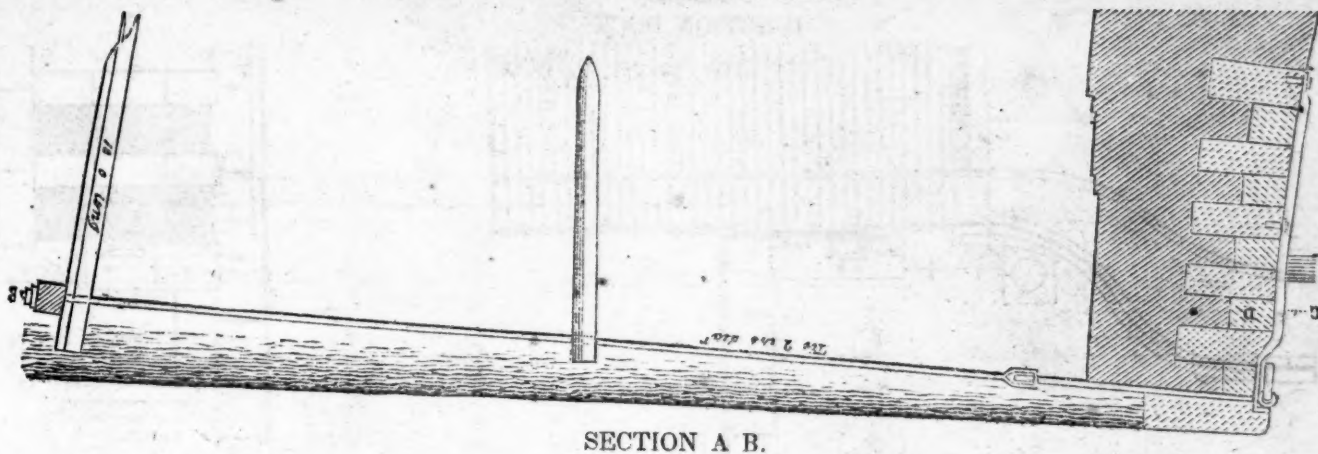


Plate 9.

Plate 9 is a representation of the Locks of the Junction Dock. This plate is given in full size and divided into three parts, or page of this reprint.

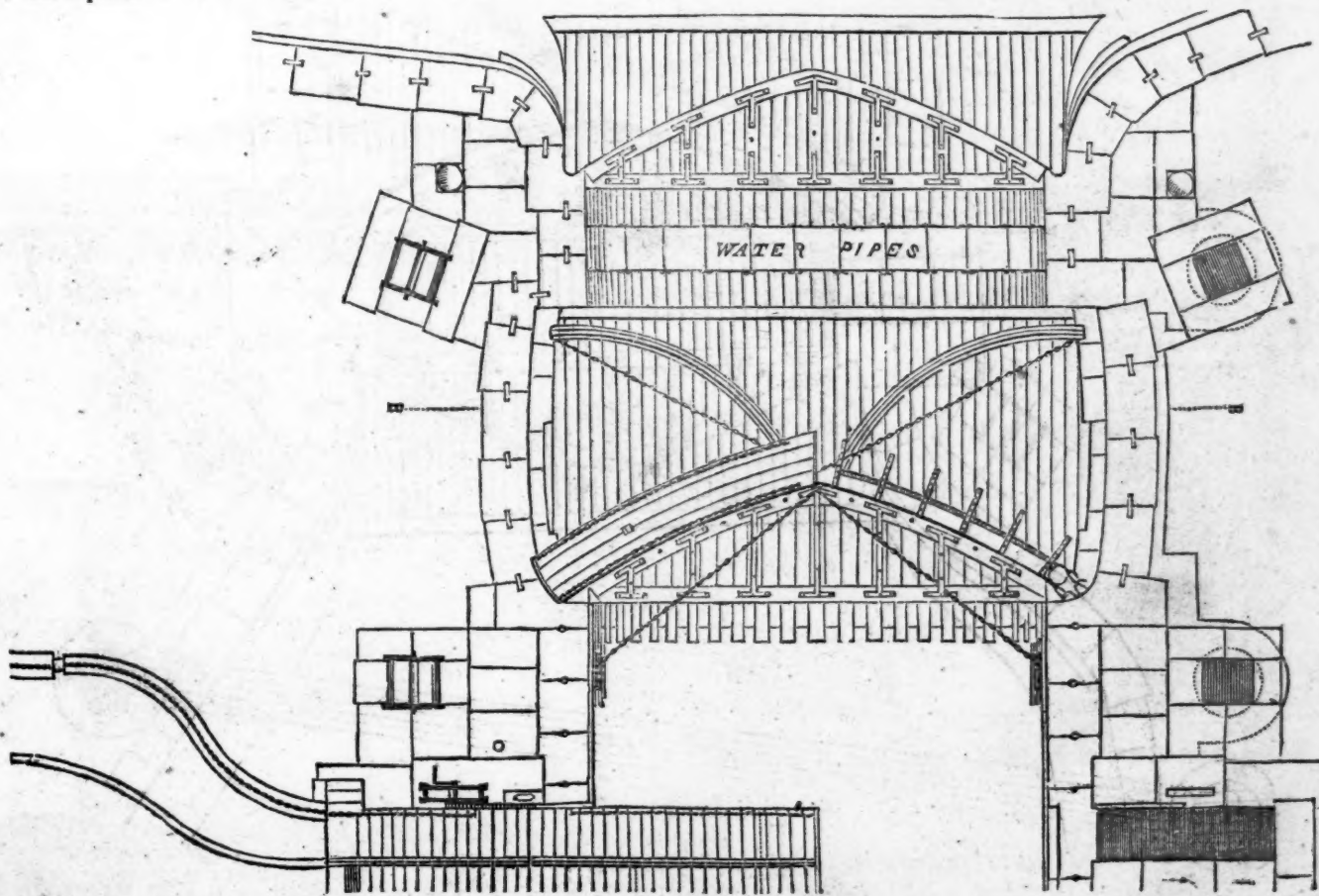




Plate 9.  
JUNCTION DOCK.

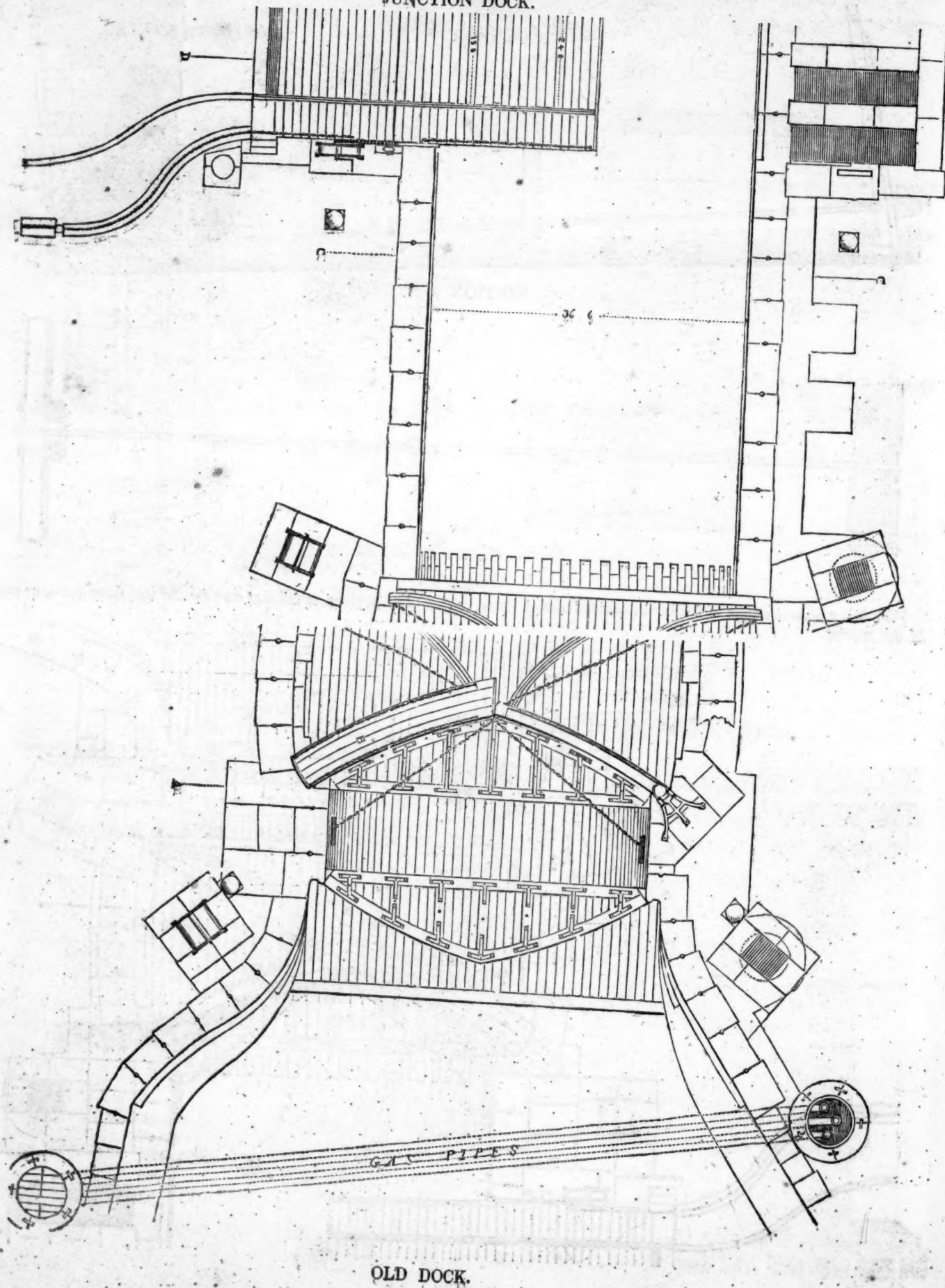
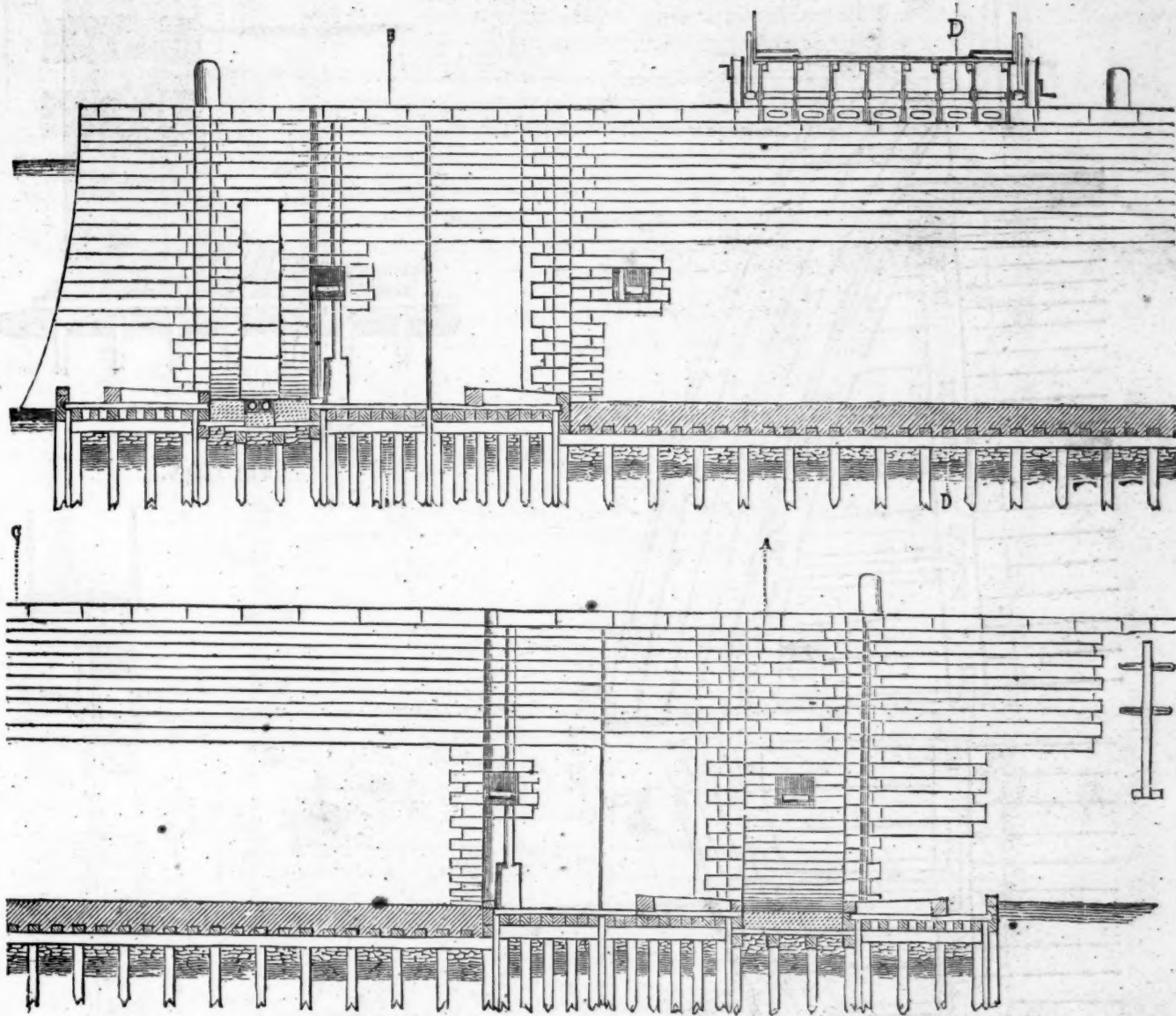




Plate 10.  
LONGITUDINAL SECTION.



TRANSVERSE SECTIONS THROUGH C. C. AND D. D.

SECTION THROUGH B. B.

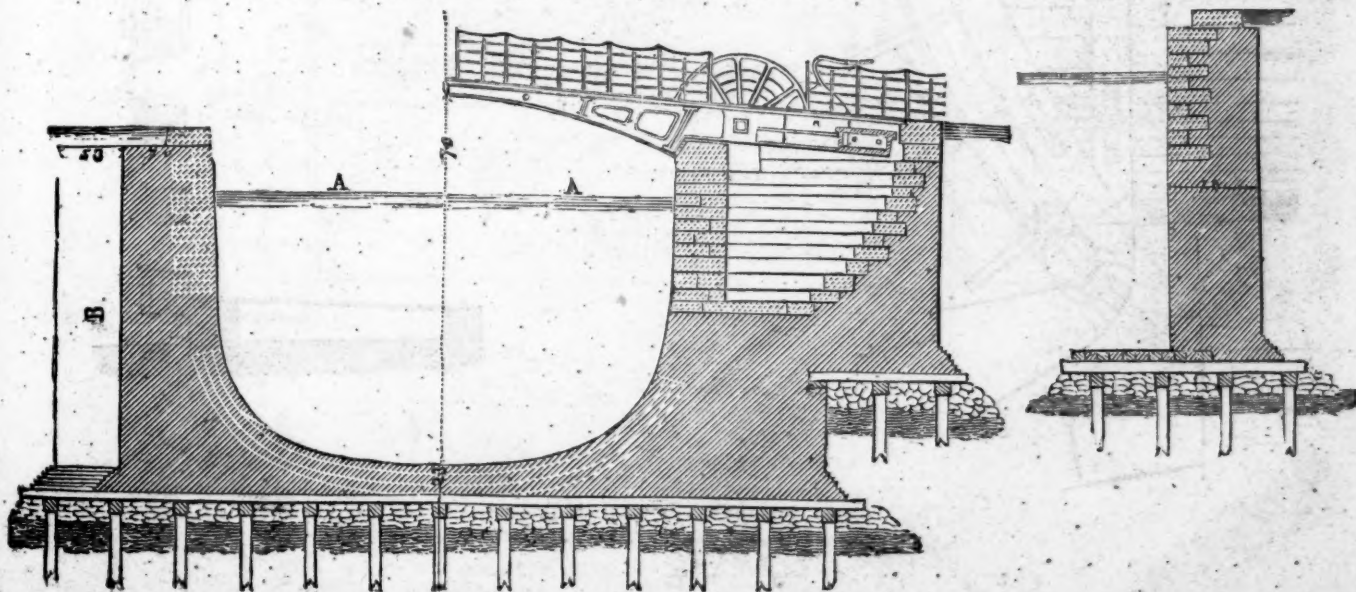
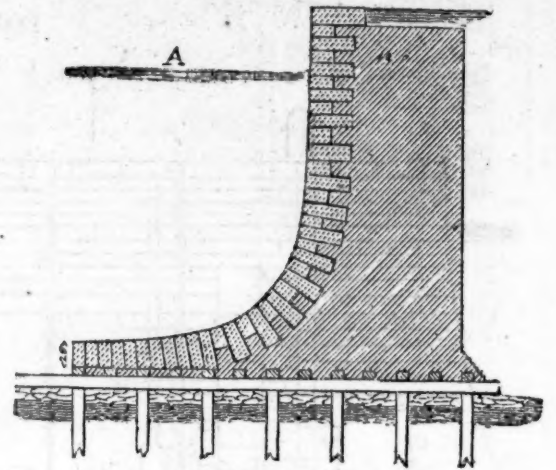


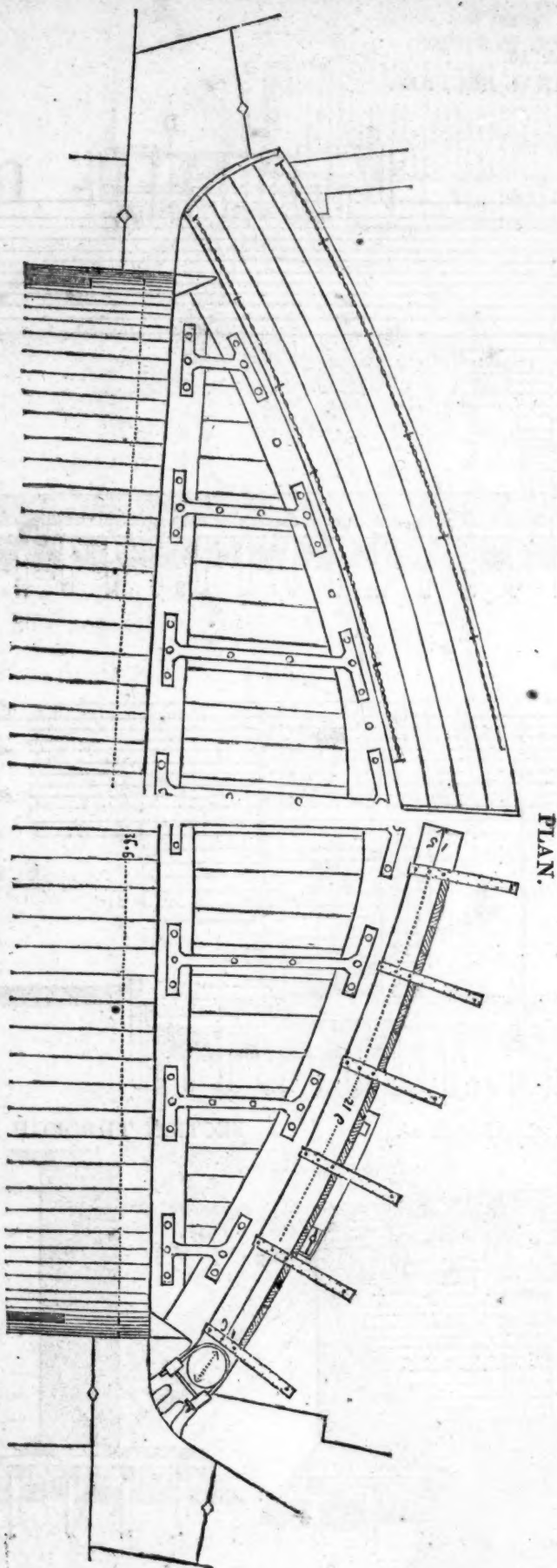
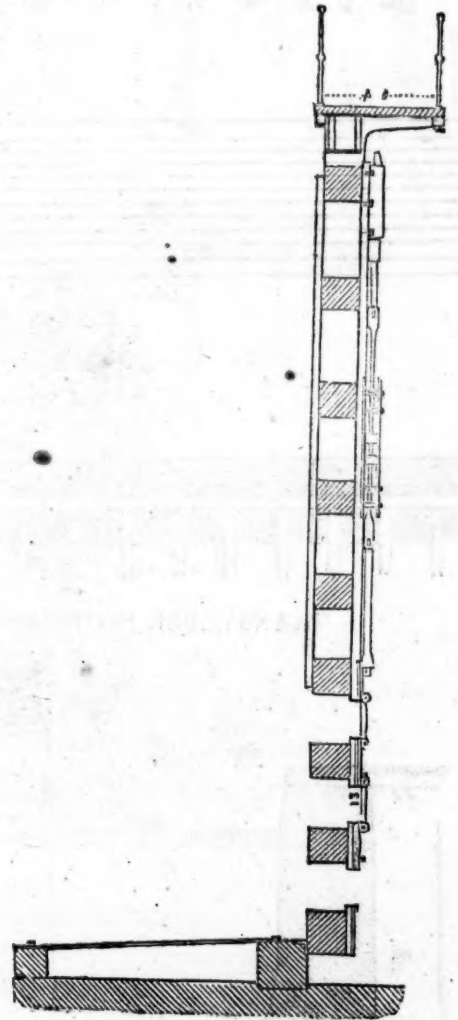
Plate 11.

Plate 10.

TRANSVERSE SECTION THROUGH A. A.



SECTION.

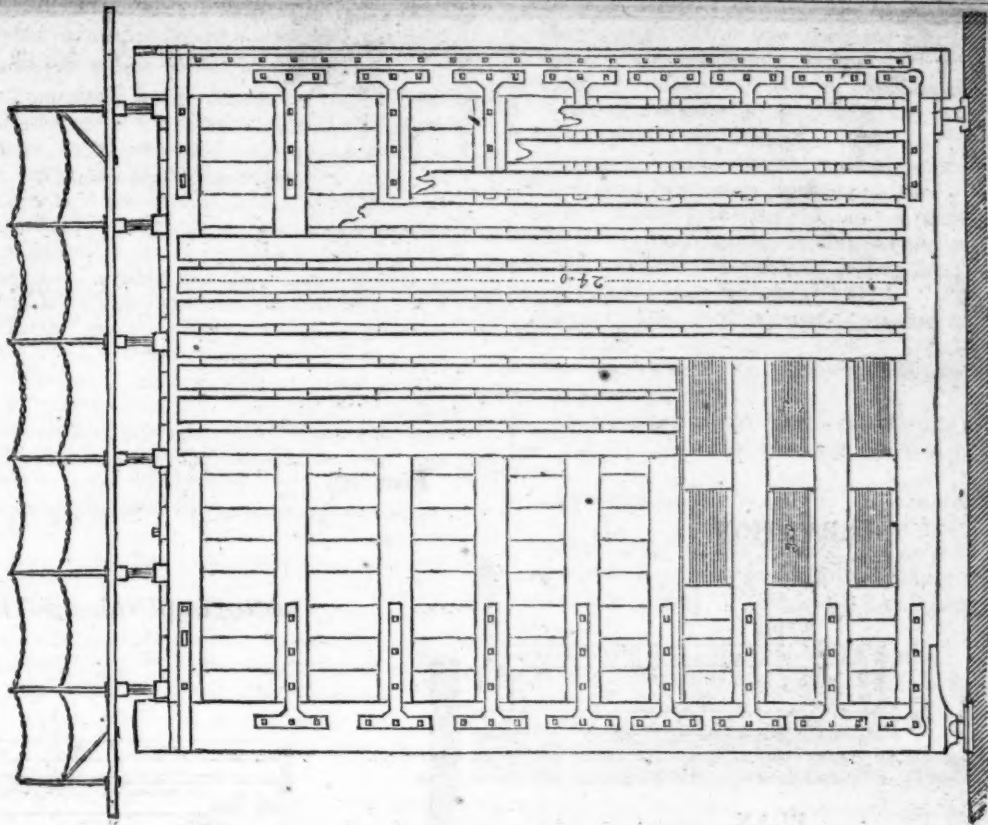


PLAN.



Plate 11.

ELEVATION OF FRONT.



ELEVATION OF BACK.

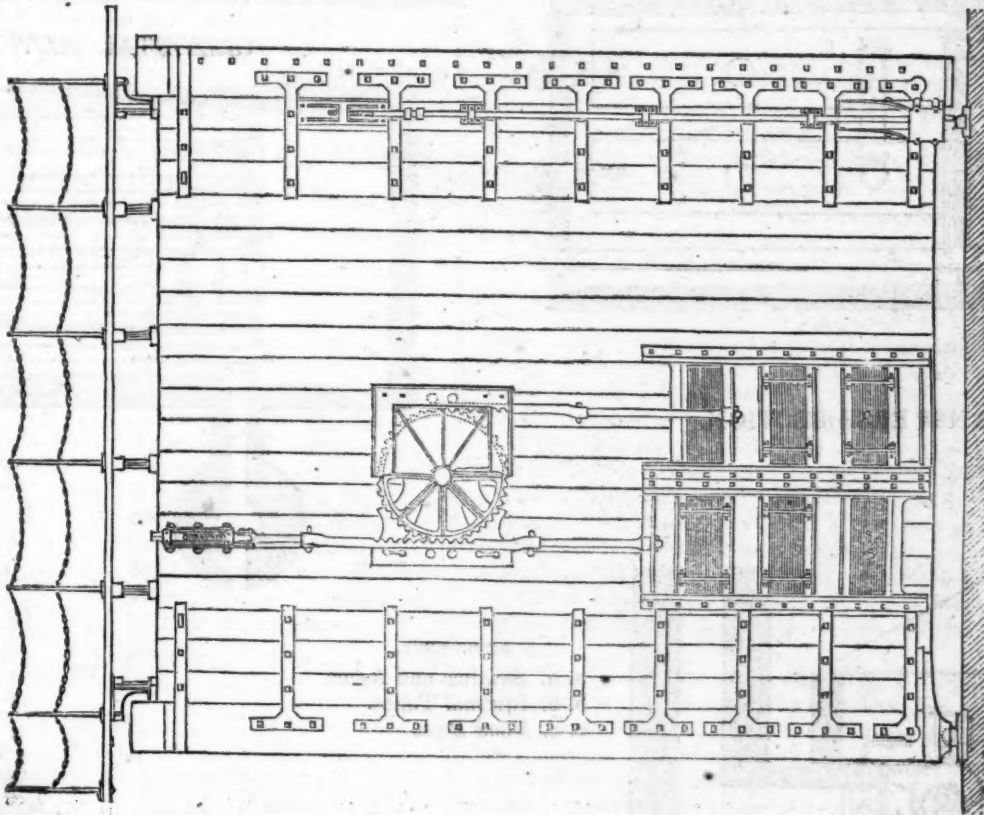
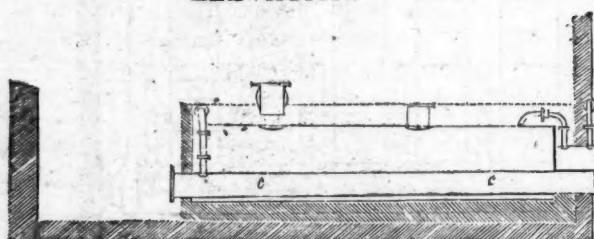
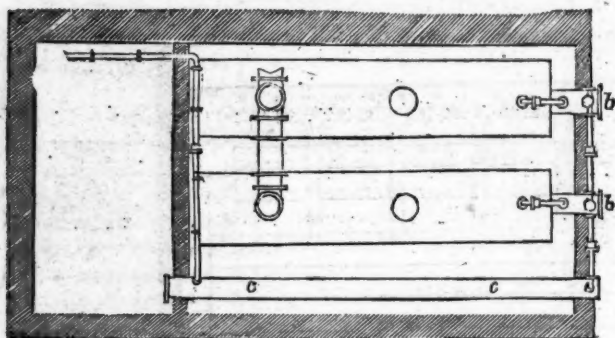


Plate 16.

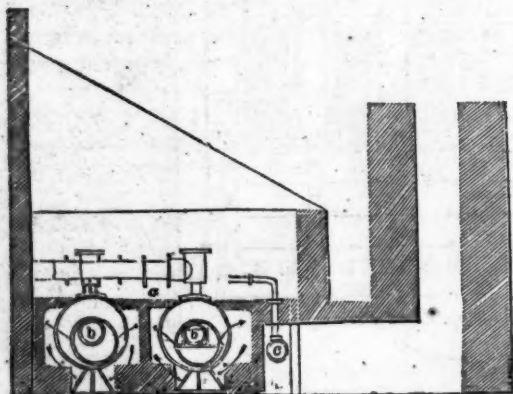
ELEVATION.



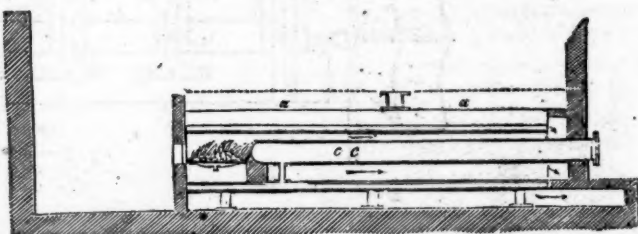
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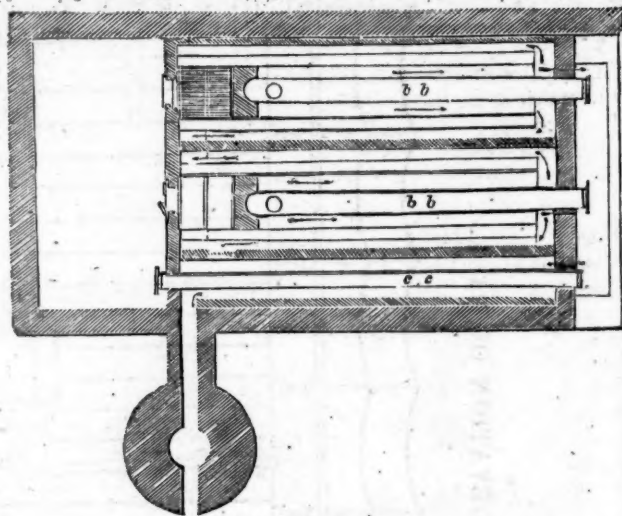
TRANSVERSE SECTION.



LONGITUDINAL SECTION.



ORIZONTAL SECTION.



## REFERENCE.

- a. a. Sawdust and Ashes.
- b. b. Internal Tubes.
- c. c. Feed Pipe.



The following circular, addressed by Mr. Colman to the Farmers of Massachusetts, evinces a determination to enter thoroughly into the business, for which he was appointed:—

Sir,—Having been appointed by the Executive of the Commonwealth, under the provisions of a Resolve of the Legislature, passed at its last session, Commissioner to make an Agricultural Survey of the State, I take the liberty of addressing this Circular to several gentlemen of intelligence and respectability in the different towns, yourself among others, with a view to obtain their advice and co-operation in accomplishing such survey.

You will allow me, then, to point out the general objects of inquiry; and to solicit particularly your attention to them; that when I visit you, as I shall ask the pleasure of doing, you will be able to give me, in respect to those which have been the subjects, either of your experience, inquiry, or observation, the desired information. By the Resolve it is made the duty of the Commissioner "To collect accurate information of the state and condition of the Agriculture of the Commonwealth, every and subject connected with it; point out the means of improvement; and make a detailed report thereof, with as much exactness as circumstances will admit." From the terms of the Resolve it is apparent that the duty is very comprehensive; as it embraces every subject connected with the agriculture of the State, and the means of its improvement. The more full however it is, the more useful it is likely to prove; and exactness in the information obtained is obviously of the very highest importance. I will now point out some of the objects to which inquiries will be directed.

I. The nature of the Soil, in different parts of the State; and particularly in reference to the crops cultivated.

II. The Climate, with reference to the crops grown; the usual time of ploughing, planting, and harvesting; the occurrence of early frosts; the length of winter; the average temperature; and the quantity of rain and snow in any year. It is desirable that meteorological observations should be made in different parts of the State.

III. I. The Number of Acres in any town cultivated or in any form productive.

2. in wood, timber, &c.
3. capable of cultivation but unproductive.
4. waste or irreclaimable.

IV. Products.

1. The amount raised in any town in any given year.
2. The average yield in any crop per acre.

V. Crops cultivated; among which are the following:

Wheat	Hemp.	Herds Grass.	Potatoes.
Indian Corn.	Flax.	Clovers.	Onions.
Rye.	Tobacco.	Red top.	Cabbages.
Barley.	Hops.	Orchard.	Carrots.
Oats.	Broom Corn.	Lucerne.	Parsnips.
Buck Wheat.	Teasels.	Tall Meadow	Beets.
Peas.	Madder.	Oats.	Artichokes.
Beans.	Wood.	English Bent.	Pumpkins.
Tares.	Saffron.	Rye Grass.	Turnips.
Lupins.	Rape.	Millet.	Fruits.
	Mints.	Foul Meadow.	Garden Vege-
		Blue Grass.	tables.
	Grass for Bon-	Salt Meadow Grasses.	
	nets.	Thatch.	
	Mulberry for		
	Silk.		
	Sunflower for Oil.		
	Poppy for Opium.		
	Mustard.		
	Succory.		

VI. Other Products.

Wool.	Beef.	Mutton.	Cheese.
Silk.	Pork.	Lard.	Butter.

VII. Rotation of crops.

VIII. Modes of Cultivation.

1. Soils adapted to particular crops.
2. Preparation of the soil by ploughing and manures.
3. Seeds; selection; change of seed; quantity; preparation; steeping for seeds; preservation of seed from worms, birds, and vermin.

4. Care and management of the growing crop.

5. Harvesting. Time and manner.

6. Use and application of the product.

7. Labor required; and general expenses of a crop.

8. Value of the crop for use or sale.

9. Marketing of the product.

IX. Diseases of Crops. Blight; mildew; rust; curl; &c., &c.

X. Weeds, and Methods of Extermination.

Thistles; Canada thistles; brake; laurel; ox-eyed daisy or white weed; ranunculus or Butter cup; wood wax; pipe-weed; St. John's wort; charlock and caduc; sorrel; cockle; tares; chess or cheat, &c., &c.

XI. Refuse of Crops. Preservation; value, and use for fodder or manure.

1. Value and use of the Stalks and Husks of Indian Corn, and how preserved.

2. Value and use of the Stalks and Husks of Broom Corn.

3. " " of the Straw of the Wheat, Rye, Oats and Barley.

4. Value and use of the Haulm of Pease and Buck Wheat.

5. " " of Potato Tops, &c., &c.

It may be useful in this place to give an outline of the manner in which it may be desirable to conduct the inquiries. I will take for examples, Wheat and Indian Corn.

Wheat.

1. History of its Cultivation in the State.

2. Kinds; bearded or bald; flint or soft skin; red or white; summer or winter; where obtained; by what name or quality designated; average weight per bushel.

3. Amount of any particular crop; extent of land sown.

4. Condition of the land; nature of the soil; whether newly cleared; burnt; swarded; or how used for two or three years previously; how prepared for sowing.

5. Kind and quantity of manure; use of lime; plaster, or any compost manure.

6. The quantity of seed to an acre, and preparation of the seed; advantages or evils of steeping the seed.

7. The time of sowing; week and day, if possible to be ascertained. The importance of such an inquiry as this will appear for the reasons which follow:

It is strongly recommended that wheat should be sown before the 14th of September, so as to be well rooted before winter; thus affording a better protection against frosts. Or else so late as not to germinate before spring; this method has been tried. Or frozen in water in the autumn and kept so until the spring, which experiment is reported to have been successful. It is often desirable for wheat to follow Indian corn; but Indian corn in general cannot be taken off in season to get the wheat sown. The discovery of any mode, such as the above for example, by which the necessity of this early sowing could be obviated, would be of great advantage.

Wheat sown early is more likely to have passed beyond injury from the hot, damp, steaming weather, which occurs in July and occasions rust. Query; whether late sown wheat is not likely to pass beyond that season before it gets into a condition to be injured, which is while it is in the milk.

Late sowing of wheat, as in some cases the last of May and the first of June, it is stated, has carried the season of flowering beyond the time of the wheat insect, and the crop has been saved.

8. The diseases or accidents, if any; whether affected by rust, smut, or mildew; and any circumstances of weather, situation, or particular condition of the plant connected or contemporaneous with such occurrence. The situation or exposure of any blighted field, whether high and airy, or low, damp, and confined.

9. Whether or not affected by the vicinity of barberry bushes.

10. Whether winter killed or not; under what circumstances as it regards the forwardness or lateness of the plant; and how affected by the snow.

11. Whether attacked by the Hessian fly or other insects; and preventives, if any.

Wheat is, in many parts of the country, subject to injury from an insect or worm, whose appearance is comparatively recent; and whose habits are not well ascertained. He is making dreadful havoc in the wheat regions, producing in many cases, an en-

ire destruction of extensive fields of the most promising appearance; and has advanced at the rate of forty miles a year. The same insect, it is believed, though the identity is not perfectly ascertained, has attacked barley, rye, and oats with alarming success. The cultivation of barley has on this account been abandoned in some parts of the State; and so has the cultivation of wheat in what have heretofore been deemed some of the most productive wheat regions in New-York.

Inquiries and experiments on this subject are of immense importance. A perfect preventive or security would be worth millions to the country.

12. Remedies or protection against blight, or other accidents.

13. The extirpation of weeds particularly injurious to the wheat crop, such as tares, cockle, chess, garlic, and the Canada thistle; and any machinery by which the grain may be cleansed of "foul stuff."

14. The experience of farmers in the cultivation of wheat crops successively on the same land; and in sowing clover with the wheat with a view to ploughing it in as manure for a succeeding crop; and whether customarily ploughed in with the stubble; or depastured; or mowed for one or more years.

15. The general subject of sowing grass with grain; and the value in such case of a stubble crop for winter fodder.

16. Harvesting.

Time and state of cutting; and whether early or late cutting be preferable; the time, in the opinion of some persons, making a material difference in the amount and value of the crop.

Modes of harvesting; reaping or cradling; and cost by day or piece work; average amount of a day's work.

17. Threshing and Cleaning.

Threshing Machines. Winnowing Machines.

18. Manufacture of Flour. Various qualities. Number of bushels required for a barrel. Miller's charges and profits.

19. Construction of Mills and flouring Machinery. Water, steam, and wind power. Domestic Mills.

20. Value and uses of bran.

21. Value and uses of Wheat Straw.

22. Value of a wheat crop compared with other crops. Average yield.

23. Capacity of the State to furnish its own wheaten bread.

24. Experiments and observations in regard to this crop.—Causes of its general failure.

25. Some general estimate of the quantity and cost of imported flour consumed in any village, town or county.

Indian Corn.

1. Kinds. Gourd seed. White soft Corn. Sweet Corn. Flint Corn.

2. Varieties of Flint Corn. White; yellow. Weight per bushel. Comparative amount of cob and grain in different varieties.

3. Soils most suitable. Preparation of land. Crop, if any, which it may best succeed. Fall or spring ploughing. How often may it be repeated on the same land.

4. Manuring; kinds of manure most suitable; quantity to the acre; how distributed—in hills, drills, or spread—applied green or rotted.

Lime; its value to Corn—how applied.

Gypsum; its value to Corn—how applied.

Ashes; its value to Corn—how applied; crude or spent.

5. Seed—how selected; effects of selecting in increasing the crop; how saved; steeped or sowed dry; various steeps; copperas water; lye; rolling in tar; coating with gypsum or ashes; quantity of seed.

6. Time of planting; modes of planting—in hills or drills; distance of plants; protection against vermin or birds.

7. Cultivation. Weeding; ploughing or harrowing among corn; use of a cultivator; number of hoeings; hilling or earthing up. Topping; suckering; stripping; with the effects upon the crop.

8. Value of the corn stalks and leaves when taken green; and mode of curing.

9. Alternate rows of corn and potatoes. Planting pumpkins or turnips among corn. Sowing grain among corn for a succeeding crop.

10. Harvesting. Gathering by the ear; or cutting up and stacking in the field.

11. Preservation of the Grain. Construction of Granaries.

12. Preservation and comparative value of the stover or dried fodder.

13. Machines for shelling.

14. Average yield per acre; value of the crop; cost of cultivation from beginning to readiness for the mill. Kiln-drying.

15. Value and uses of Indian Corn—for Dairy Animals.

" " " for fattening stock.

" " " for swine.

" " " for horses.

" " " for distillation.

" " " for extraction of oil.

(To be continued.)

## Advertisements.

### CROTON AQUEDUCT—NOTICE.

SEALED PROPOSALS will be received by the Water Commissioners of the city of New-York, until the 5th day of September next, at 9 o'clock, P. M., at their office in the city of New-York, for the Excavation, Embankment, Bank Filling, Foundation and Protection, Walls, Tunnels, several large and small culverts, and an Aqueduct of stone and brick masonry, with other incidental work on that portion of the Croton Aqueduct which is embraced in section 9—10—12—13—14—16—19 and 21 to 26 inclusive on the 1st Division; and sections 27 to 53 inclusive, being the whole of the 2d Division.

The prices for the work must include the expense of materials necessary for the completion of the same, according to the plans and specifications that will be presented for examination, as hereinafter mentioned.

The work to be completed by the 1st day of October, 1810.

Security will be required for the performance of contracts—and propositions should be accompanied by the names of responsible persons, signifying their assent to become securities. If the character and responsibilities of those proposing, and the sureties they shall offer, are not known to the Commissioners or Engineers, a certificate of good character, and the extent of their responsibility, signed by the first judge or clerk of the county in which they severally reside, will be required.

No transfer of contracts will be recognized.

The line of Aqueduct will be located, and the map and profile of the same, together with the plans and specifications of the materials and manner of construction, will be ready for examination at the office of the Engineer, at the village of Tarrytown, on the 19th instant, and the Chief or Resident Engineer will be in attendance to explain the plans, &c., and to furnish blank propositions.

Persons proposing for more work than they wish to contract for, must specify the quantity they desire to take.

The full names of all persons that are parties to any proposition, must be written out in the signature for the same.

The parties to the proposition which may be accepted, will be required to enter into contracts, immediately after the acceptance of the same.

The undersigned reserve to themselves the right to accept or reject proposals that may be offered for the whole or any part of the above described work, as they may consider the public interest to require.

New-York, August 8th, 1837.

STEPHEN ALLEN,  
CHARLES DUSENBERRY,  
SAUL ALLEY,  
WILLIAM W. FOX,  
THOMAS T. WOODRUFF,

Water  
Commissioners;

JOHN B. JERVIS, Chief Engineer,  
New-York Water Works:  
31—32

**TO RAILROAD CONTRACTORS.**—Proposals will be received at the office of the Clinton and Port Hudson Railroad Company, in the town of Jackson, Louisiana, until the first of November next, for the completion of the balance of the Clinton and Port Hudson Railroad, being about 21 miles. Plans, profiles and specifications, giving all the necessary information, may be examined at the office of the Engineer in the town of Port Hudson.

A. G. THORN,  
Chief Engineer.

Port-Hudson, July 13th, 1837.

—32. 1st Nov.

**VICKSBURG AND JACKSON RAILROAD.—NOTICE TO CONTRACTORS.**—Persons disposed to contract for and give personal attention to the laying of the superstructure for the Vicksburg and Jackson Railroad, about 45 miles in length, in the State of Mississippi, may receive all necessary information to enable them to propose by applying to the subscriber at the office of J. R. Van Rensselaer, Esq., 21 Wall Street, until the first of September next.

R. S. VAN RENSSELAER,  
Engineer, V. & J. R.R.

New-York, 1st August, 1837.

—32. 1st S



**GEORGE HALL.**—Information is wanted of George Hall of the city of New York, who left Newburgh last September. If this should meet his eye, he will hear of something to his advantage, by addressing a letter to his Sister *Jane Hall*, 46 Oak street, New York.—Any information concerning him, will be thankfully received by his Brothers and Sisters as above directed.

New-York, June 15th, 1837.

THIRD ANNUAL FAIR OF THE MECHANICS' INSTITUTE OF THE CITY OF NEW-YORK.

The Fair of the Institute will be held at Niblo's Garden, commencing Monday, September 25th, 1837.

To render this exhibition worthy of the arts and of the ingenuity of the Mechanics of our country, the Managers appointed to conduct the approaching Fair have determined to make such liberal arrangements as will insure to the contributors a fair opportunity of exhibiting their productions to the greatest advantage.

The object of Exhibition Fairs is to present to the members of the Institute and their fellow citizens who are engaged in the Mechanic Arts, the means of making their skill and ingenuity known in a way no other facilities afford: the many thousands who visit such exhibitions have a much better opportunity of judging of the merits of the various productions, than they would have by a mere verbal or newspaper description, besides the advantage of seeing brought together, in one vast collection, the products of the skill, ingenuity, and industry of our country.

PREMIUMS of Medals, Diplomas, &c. will be awarded for all worthy or meritorious articles exhibited, either as it respects superior workmanship, machinery wherein the operations are new, interesting or important, where ingenuity is displayed, or taste manifested, and particularly for all new and useful inventions.

You are respectfully requested to send, for competition or exhibition, specimens of the articles you manufacture; and you may be assured that the strictest impartiality will be observed in the distribution of the Premiums.

Steam power will be provided for the accommodation of those who wish to exhibit Machinery in operation; an experienced Superintendent will take charge of this department, and contributors in this branch are particularly invited to send or bring their Machines or models as early as possible, on the 23d September that the necessary arrangements may be made in relation to shafting, pulleys, &c.

The Managers, in conclusion, cannot but express their belief that this Third Fair of the Mechanics' Institute, will exceed in variety and beauty of display, all previous exhibitions of the kind.

GEORGE BRUCE, *Chairman*,  
WM. EVERDELL,  
C. CROLIUS, JUN.  
THOS. EWBANK,  
RICHARD BRAGAW,

Executive Committee.

N. B. All articles for competition must be delivered to the Committee at Niblo's Garden, on the 23d September. Those for exhibition only will be received any day during the Fair, before 10 o'clock A. M.

RULES AND REGULATIONS.

1.—The Garden will be opened for the reception of Goods, on Saturday, 23d of September, from 6 o'clock A. M. until 9 o'clock P. M., and it is respectfully urged that all articles intended for competition may be sent in early in the day. Those articles intended for exhibition only will be received any day during the Fair, before the hour of 10 A. M.

2.—The Fair will open for visitors on Monday, 25th September at 10 o'clock A. M., and continue open every day of the exhibition till 10 o'clock P. M.

3.—Competent and impartial Judges will be appointed to examine all articles presented, and premiums will be awarded on all such as shall be declared worthy.

4.—The Committee on Premiums, and all firms or partnerships in which they may be interested, shall be excluded from competition or the award of any premium.

5.—All persons depositing articles, either for competition or exhibition, must attend to have them registered by the Clerk, at

which time they will receive a certificate, which will be required of them when the articles are returned.

6.—Proof of origin must be furnished if required, for any specimen offered for Premium.

7.—Depositors will receive a ticket from the Clerk, which will admit them and Ladies during the Exhibition.

8.—Arrangements will be made to exhibit, in operation, all working models that may be deposited—contributions in this branch are invited—a competent person will take charge of all models sent for the above purpose.

9.—The morning of each day, until fifteen minutes before 10 o'clock, shall be appropriated exclusively to the Judges.

10.—Members will receive their tickets of admission by applying at the Institute Rooms, any time in the week previous to and during the exhibition.

11.—All articles offered by Apprentices, will be received, and adjudged as the production of Apprentices—they must furnish a certificate of name, age, with whom, and the time they have served as apprentices.

12.—Articles subject to injury by being handled, should be secured in glass cases—and contributors are requested to have a person to take charge during the hours of exhibition—in the intervals, efficient measures will be taken to protect property.

GENERAL COMMITTEE.

George Bruce,	John Ridley,
John M. Dodd,	Silas B. Simonson,
James J. Mapes,	Thomas F. Peers,
Thomas Ewbank,	Thomas G. Hodgkins,
Wm. Everdell,	George L. Spencer,
C. Crolius, Jr.,	Peter Wemmell,
A. J. Mason,	Richard Bragaw,
Thos. W. Bartholomew,	Ab'm Peitch,
A. Storms,	Wm. H. Hale,
Wm. Ballard,	Wm. J. Mullen,
Henry Cunningham,	James Thomson,
John Harold,	Abner Mills,
Joseph Trench,	L. D. Chapin,
James D. Phyle,	A. Cammeyer,
John H. Mead,	Hiram Tupper,
John Conroy,	H. B. Robertson,
Jordan L. Mott,	James Thomas,
Samuel Carter,	H. G. Stetson,
George F. Nesbitt,	Ferris Owen,
Henry Worrall,	N. Berry,
W. B. Worrall,	O. Whittelessey,
James B. Cummings,	M. W. Emmons,
James Frost,	J. S. Anderson.

TRANSACTIONS OF THE INSTITUTION OF CIVIL ENGINEERS OF GREAT BRITAIN.

The first volume of this valuable work, has just made its appearance in this country. A few copies, say *twenty-five or thirty* only, have been sent out, and those have nearly or quite all been disposed of at *ten dollars* each—a price, although *not the value* of the work, yet one, which will prevent many of our young Engineers from possessing it. In order therefore, to place it within their reach, and at a convenient price, we shall *reprint* the entire work, with all its engravings, *neatly done* on wood, and issue in six *parts or numbers*, of about 48 pages each, which can be sent to any part of the United States by mail, as issued, or put up in a volume at the close.

The price will be to subscribers *three dollars*, or *five dollars* for two copies—*always in advance*. The first number will be ready for delivery early in April—Subscriptions are solicited.

TO RAILROAD COMPANIES.

A PERSON experienced in the construction of Locomotive Engines (many of his Manufacture being in successful operation on important Railroads in the United States) and who is likewise thoroughly acquainted with the management of such machines, and, indeed, the entire ordeal of Railroads, is desirous of obtaining the situation of General Superintendent on some Railroad, South or West.

The most satisfactory testimonials of character and capability can be produced. Communications addressed to the Editors of this Journal, stating the location of Road, &c. will meet with prompt attention.



## RAILWAY IRON, LOCOMOTIVES, &amp;c

THE subscribers offer the following articles for sale.  
Railway Iron, flat bars, with countersunk holes and mitred joints,

	lbs.
350 tons 2½ by 1, 15 ft length, weighing 4.50 per ft.	1500
280 " 2 " 1, " " " " 3.50 "	1000
70 " 1½ " 1, " " " " 2½ "	1000
80 " 1½ " 1, " " " " 1.75 "	1000
90 " 1 " 1, " " " " 1.00 "	1000

with Spikes and Splicing Plates adapted thereto. To be sold free of duty to State governments or incorporated companies.

Orders for Pennsylvania Boiler Iron executed.  
Rail Road Car and Locomotive Engine Tires, wrought and turned or unturned, ready to be fitted on the wheels, viz. 30, 33, 35, 42, 44, 54, and 60 inches diameter.

E. V. Patent Chain Cable Bolts for Railway Car axles, in lengths of 12 feet 6 inches, to 13 feet 2½, 23, 31, 34, 34, and 34 inches diameter.

Chains for Inclined Planes, short and stay links, manufactured from the E. V. Cable Bolts, and proved at the greatest strain.

India Rubber Rope for Inclined Planes, made from New Zealand flax.

Also Patent Hemp Cordage for Inclined Planes, and Canal Towing Lines.

Patent Felt for placing between the iron chair and stone block of Edge Railways.

Every description of Railway Iron, as well as Locomotive Engines, imported at the shortest notice, by the agency of one of our partners, who resides in England for this purpose.

A highly respectable American Engineer, resides in England for the purpose of inspecting all Locomotives, Machinery, Railway Iron &c. ordered through us.

A. & G. RALSTON & CO.,  
Philadelphia, No. 4, South Front-st

28 if

## ARCHIMEDES WORKS.

(100 North Moor street, N. Y.)  
New-York, February 12th, 1836.

THE undersigned begs leave to inform the proprietors of Railroads that they are prepared to furnish all kinds of Machinery for Railroads, Locomotive Engines of any size, Car Wheels, such as are now in successful operation on the Camden and Amboy Railroad, none of which have failed—Castings of all kinds, Wheels, Axles, and Boxes, furnished at shortest notice.  
4—vt  
H. R. DUNHAM & CO.

## MACHINE WORKS OF ROGERS.

KETCHUM AND GROSVENOR, Paterson, New-Jersey. The undersigned receive orders for the following articles, manufactured by them, of the most superior description in every particular. Their works being extensive, and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

## RAILROAD WORK.

Locomotive Steam-Engines and Tenders; Driving and other Locomotive Wheels, Axles, Springs and Flange Tires; Car Wheels of cast iron, from a variety of patterns, and Chills; Car Wheels of cast iron, with wrought Tires; Axles of best American refined iron; Springs; Boxes and Bolts for Cars.

## COTTON WOOL AND FLAX MACHINERY.

Of all descriptions and of the most improved Patterns, Style, and Workmanship.

Mill Geering and Millwright work generally; Hydraulic and other Presses; Press Screws; Callenders; Lathes and Tools of all kinds; Iron and Brass Castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR  
Paterson, New-Jersey, or 60 Wallstreet, N.  
51tf

## TO RAILROAD CONTRACTORS.

PROPOSALS will be received, at the office of the Hiwassee Railroad Com., in the town of ATHENS, TENNESSEE, until sunset, of Monday, June 12th, 1837; for the grading, masonry and bridges, on that portion of the HIWASSEE RAILROAD, which lies between the River Tennessee and Hiwassee. A distance of 40 miles.

The quantity of excavation will be about one million of cubic yards.

The line will be staked out; and, together with drainings and specifications of the work, will be ready for the inspection of contractors, on and after the 1st day of June.

JOHN C. TRAUTWINE,  
Engineer in Chief Hiwassee Railroad.  
16—6t.

## FRAME BRIDGES.

THE undersigned, General Agent of Col. S. H. LONG, to build Bridges, or vend the right to others to build, on his Patent Plan, would respectfully inform Railroad and Bridge Corporations, that he is prepared to make contracts to build, and furnish all materials for superstructures of the kind, in any part of the United States, (Maryland excepted.)

Bridges on the above plan are to be seen at the following localities, viz. On the main road leading from Baltimore to Washington, two miles from the former place. Across the Metawakeag river on the Military road, in Maine. On the national road in Illinois, at sundry points. On the Baltimore and Susquehanna Railroad at three points. On the Hudson and Patterson Railroad, in two places. On the Boston and Worcester Railroad, at several points. On the Boston and Providence Railroad, at sundry points. Across the Contoocook river at Henniker, N. H. Across the Sennehan river, at Milford, N. H. Across the Connecticut river, at Haverhill, N. H. Across the Contoocook river, at Hancock, N. H. Across the Androscoggin river, at Turner Centre, Maine. Across the Kennebec river, at Waterville, Maine. Across the Genesee river, at Squakiehill, Mount Morris, New-York. Across the White River, at Hartford Vt. Across the Connecticut River, at Lebanon, N. H. Across the mouth of the Broken Straw Creek, Penn. Across the mouth of the Cataugaus Creek, N. Y. A Railroad Bridge diagonally across the Erie Canal, in the City of Rochester, N. Y. A Railroad Bridge at Upper Still Water, Orono, Maine. This Bridge is 500 feet in length; one of the spans is over 200 feet. It is probably the FIRMEST WOODEN BRIDGE ever built in America.

Notwithstanding his present engagements to build between twenty and thirty Railroad Bridges, and several common bridges, several of which are now in progress of construction, the subscriber will promptly attend to business of the kind to much greater extent and on liberal terms.

ROCHESTER, Jan. 13th, 1837.

MOSES LONG.

4—y

## ALBANY EAGLE AIR FURNACE AND MACHINE SHOP.

WILLIAM V. MANY manufactures to order, IRON CASTINGS for Gearing Mills and Factories of every description.

ALSO—Steam Engines and Railroad Castings of every description.

The collection of Patterns for Machinery, is not equalled in the United States  
9—1y

## NEW ARRANGEMENT.

## ROPES FOR INCLINED PLANES OF RAILROADS.

WE the subscribers having formed a co-partnership under the style and firm of Folger & Coleman, for the manufacturing and selling of Ropes for inclined planes of railroads, and for other uses, offer to supply ropes for inclined planes, of any length required without splice, at short notice, the manufacturing of cordage, heretofore carried on by S. S. Durfee & Co., will be done by the new firm, the same superintendant and machinery are employed by the new firm that were employed by S. S. Durfee & Co. All orders will be promptly attended to, and ropes will be shipped to any port in the United States.

12th month, 12th, 1836. Hudson, Columbia County State of New-York.

33—tf

ROBT. C. FOLGER,  
GEORGE COLEMAN,

## AMES' CELEBRATED SHOVELS, SPADES, &amp;c.

300 dozens Ames' superior back-strap Shovels  
150 do do do plain do  
150 do do do cast-steel Shovels & Spades  
150 do do Gold-mining Shovels  
100 do do plated Spades  
50 do do socket Shovels and Spades.

Together with Pick Axes, Churn Drills, and Crow Bars (steel pointed), manufactured from Salisbury refined iron—for sale by the manufacturing agents,

WITHERELL, AMES & CO.

No. 2 Liberty street, New-York

BACKUS, AMES & CO.

No. 8 State street, Albany

N. B.—Also furnished to order, Shapes of every description, made from Salisbury refined iron  
v4—tf

## STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads.

No. 264 Elizabeth street, near Bleekerstreet, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad now in operation.  
125tf, 3

## PATENT RAILROAD, SHIP AND BOAT SPIKES.

\* \* The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation, and now almost universal use in the United States, (as well as England, where the subscriber obtained a patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

\* \* All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent

Troy, N. Y., July, 1831.

\* \* Spikes are kept for sale, at factory prices, by J. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.  
(1J23am) H. BURDEN.

## TO CONTRACTORS.

JAMES RIVER AND KANAWHA CANAL. THERE is still a large amount of mechanical work to let on the line of the James River and Kanawha Improvement, consisting of twenty locks, about one hundred culverts and several large aqueducts, which will be offered to responsible contractors at fair prices: The locks and aqueducts are to be built of cut stone.

The work contracted for must be finished by the 1st day of July, 1838

Persons desirous of obtaining work are requested to apply at the office of the undersigned, in the city of Richmond, before the fifteenth of May, or between the fifth and the fifteenth of July.

CHARLES ELLET, Jr.

Chief Engineer Jas. Riv. & Ka. Co.

P. S.—The valley of James River above Richmond is healthy.

16—10t

## TO RAILROAD CONTRACTORS.

SEALED proposals will be received at the office of the Selma and Tennessee River Railroad Company, in the town of Selma, Alabama, for the graduation of the first forty miles of the Selma and Tennessee Railroad. Proposals for the first six miles from Selma, will be received after the first of May, and acted on by the Board on the 15th May. Proposals for the ensuing 34 miles, will be received after the 10th May, but will not be examined until the 1st of August next, when the work will be ready for contract.

The line, after the first few miles, pursuing the flat of the Mulberry Creek, occupies a region of country, having the reputation of being highly healthful. It is free from ponds and swamps, and is well watered.—The soil is generally in cultivation, and is dry, light and sandy, and uncommonly easy of excavation.—The entire length of the line of the Selma and Tennessee Railroads, will be about 170 miles, passing generally through a region as favorable for health as any in the Southern Country.

Owing to the great interest at stake in the success of this enterprise, and the amount of capital already embarked in it, this work must necessarily proceed with vigor, and I invite the attention of men of industry and enterprise, both at the North and elsewhere to this undertaking, as offering in the prospect of continued employment, and the character of the soil and climate, a wide and desirable field to the contractor.

Proposals may be addressed either to the subscriber, or to General Gilbert Shearer, President of the Company.

ANDREW ALFRED DEXTER, Chief Engineer.  
Selma, Ala., March 20th, 1837. A 15 if

## ROACH &amp; WARNER,

Manufacturers of OPTICAL, MATHEMATICAL AND PHILOSOPHICAL INSTRUMENTS, 293 Broadway, New York, will keep constantly on hand a large and general assortment of Instruments in their line.

Wholesale Dealers and Country Merchants supplied with SURVEYING COMPASSES, BAROMETERS, THERMOMETERS, &c. &c. of their own manufacture, warranted accurate, and at lower prices than can be had at any other establishment.  
Instruments made to order and repaired. 14